

ON NEW AND LITTLE-KNOWN BUTTERFLIES
FROM NORTH-EAST SUMATRA

COLLECTED BY HOFRATH DR. L. MARTIN.*

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(*With Plates K, L, and M.*)

All the butterflies described below were obtained by Hofrath Dr. L. Martin in North-East Sumatra, the rarer ones almost entirely from the little-known Battak Mountains. Dr. Martin has already enriched my collection with 265 species from Sumatra, and has sent me a list giving the names of 324 species contained in his own collection. All of these were collected within a comparatively small radius, so that it may probably be safely assumed that when the whole island is explored and thoroughly collected over, it will be found that fully 600 species inhabit it, of which perhaps 50 may be endemic. The only papers of which I am aware written solely on the butterflies of Sumatra are by Heer P. C. T. Snellen, and are as follows :—

- I. "Tijdschrift voor Entomologie," vol. xx, p. 65 (1877), enumerating 35 species.
- II. "Tijdschrift voor Entomologie," vol. xxxiii, p. 215 (1890), enumerating 48 species.
- III. "Midden-Sumatra, Lepidoptera" (1892), enumerating 104 species.

Family NYMPHALIDÆ.

Subfamily DANAINÆ.

1. DANAIS (*Caduga*) TYTIOIDES, n. sp., Pl. K, Figs. 1, ♂ ; 2, ♀.

HABITAT : Battak Mountains, Sumatra.

EXPANSE : ♂, 3·2 to 3·5 ; ♀, 4·0 inches.

DESCRIPTION : MALE. UPPERSIDE, *forewing* black, with the following pale bluish hyaline markings :—the posterior half of the discoidal cell bearing anteriorly and outwardly a fine black line ; two small oval costal spots divided by the second subcostal nervule ; followed by a very short and narrow streak in the subcostal interspace ; then another streak twice as broad and three times as long as the one above it in the upper discoidal interspace ; an oval spot in the lower discoidal interspace ; two nearly equal-sized spots in the upper median interspace, the outer spot rectangular, the inner triangular ; two similar spots in the lower median interspace, except that the inner spot of the two is twice as large as the outer one ; a very large streak occupies nearly the whole of the

* A short preliminary description of the new species described in this paper appeared in vol. vii, page 555, of this Journal.

submedian interspace from its base to one-fourth from the margin; a narrow streak in the sutural area from the base reaching to one-fourth from the outer margin; a curved submarginal series of seven rounded spots; a few obscure marginal dots towards the anal angle. *Hindwing* with the outer third castaneous darkening to the margin, the rest of the wing pale hyaline bluish; the discoidal cell bears outwardly two narrow castaneous streaks; two small subapical round bluish spots divided by the second subcostal nervule; the usual secondary sexual characters of the subgenus at the anal angle. *UNDERSIDE*, *forewing* marked as above, but the black ground-colour at the apex and outer margin tinted with dull castaneous. *Hindwing* as above, but the outer margin bears an anterior decreasing submarginal series of small round spots, and an incomplete (not reaching the apex) marginal series of dots. *FEMALE*, differs from the male only in its much broader wings, the outer margin of the *forewing* slightly, instead of deeply, emarginate, the *hindwing* has the outer margin rounder, less obliquely cut off, and the castaneous colouring much redder; the male secondary characters, of course, are absent.

Allied to, but quite distinct from, *D. tytia*, Gray, which occurs throughout the Himalayas, Assam, Burma, with a slight variety in the Malay Peninsula. Differs therefrom in its much smaller size, conspicuously narrower wings, the male has the outer margin of the forewing much more deeply excavated, the hindwing with the outer margin nearly straight instead of rounded, greatly cut off obliquely; in both sexes the forewing has the hyaline portion of the cell less than half as wide, the streak in the subcostal interspace very small and narrow; the hindwing in the male deep dull castaneous instead of ferruginous.

Of the *D. tytia* group of the subgenus *Caduga* there are at present known, besides that species, *D. nipponica*, Moore, from Japan and doubtfully from Askold, North Formosa, and Chekiang, North China*; and *D. loochooana*, Moore, from the Loo Choo Islands. The occurrence of a fourth species so far south as Sumatra is very interesting.

D. tytioides is admirably mimicked by *Hestina carolinæ*, Snellen, an insular modified race of the continental Indian *Hestina nama*, Doubleday.

Described from three males and three females, which show but slight individual differences.

2. EUPLŒA (*Narmada*) MARTINII, n. sp., Pl. K, Figs. 3, ♂; 4, ♀.

HABITAT: Battak Mountains, Sumatra.

EXPANSE: ♂, 3·9 to 4·1; ♀, 4·1 inches.

* This species is entirely ignored by Mr. J. H. Leech in his "Butterflies from China, Japan, and Corea;" he considers that the species occurring in those regions is *D. tytia*, and records it from "China common, is found all over Japan, and has been recorded by Oberthür from the Isle of Askold."

DESCRIPTION : MALE. UPPERSIDE, *both wings* very deep and rich velvety dead black. *Forewing* with a minute costal white dot placed between the first and second subcostal nervules ; four subapical spots—the uppermost small and oval placed between the fourth and fifth subcostal nervules, the second and third much larger and oval placed in the subcostal and upper discoidal interspaces, the fourth equal in size to the first placed in the lower discoidal interspace. In two specimens there is a fifth smallest spot on the costa placed between the third and fourth subcostal nervules. This series of spots is placed obliquely outwards and appears to run into and coalesce with the marginal series at the eighth spot (counting from the apex), which latter series consists of fourteen small spots, decreasing in size from the inner angle to the apex, placed in pairs in the interspaces ; the two sexual brands as usual in the submedian interspace—the upper short and narrow, the lower broad and twice as long as the upper. *Hindwing* with the costal area broadly whitish, followed by a broad pale castaneous area reaching to the middle of the discoidal cell, the abdominal area fuscous, all the rest of the wing deep black as in the forewing ; a marginal series of thirteen rounded spots, with an inner series of seven spots from the second subcostal nervule to the submedian nervure. In two specimens these two series of spots, instead of being quite distinct and well separated, completely coalesce and form short streaks. UNDERSIDE, *both wings* olivaceous-fuscous, the marginal series of spots as on the upperside. *Forewing* with an additional small spot at the lower outer end of the discoidal cell, two on the costa making a complete series one in each interspace divided by the subcostal nervules, and two in each median interspace ; the inner margin broadly shining fuscous. *Hindwing* with two additional spots to the inner marginal series placed anteriorly, and a dot in the second median interspace just beyond the end of the cell. *Cilia* of both wings alternately black and white in equal proportions. FEMALE. UPPERSIDE, *both wings* very much paler than in the male, black, but not of a deep, rich, velvety shade. *Forewing* with three costal spots in a cluster ; a complete submarginal series of eight spots ; two small spots in the median interspaces ; the marginal series of spots as in the forewing, but rather larger. *Hindwing* with the two marginal series of spots almost entirely coalesced into streaks ; only anteriorly are they free. UNDERSIDE, *both wings* coloured as in the male. *Forewing* as on the upperside, but the two spots in each of the median interspaces larger ; the inner margin broadly white ; a short white streak in the submedian interspace. *Hindwing* as on the upperside, but with an additional spot at the outer end of the cell, and a complete series of five beyond the cell—one in each interspace.

I know of no species with which this can be compared. The beautiful deep velvety black of the male on the upperside is only matched, as far as I know,

by the same sex of *E. (Anadara) gamelia*, Hübner, from Java. The coalescing of the submarginal with the marginal series of spots on the forewing in the male is, I believe, quite a unique character.

Described from four males and two females in my own collection; several others of both sexes are in that of Hofrath Dr. L. Martin, after whom I have great pleasure in naming the species as a slight tribute to his entomological knowledge, zeal, and enterprise in sending natives into the mountains of Sumatra to collect in spots inaccessible to Europeans.

Subfamily SATYRINÆ.

3. LETHE DARENA, Felder, Pl. K, Fig. 7, ♂.

Debis darena, Felder, Reise Novara, Lep., vol. iii, p. 498, n. 862, pl. lxxviii, figs. 4, 5, female (1866).

HABITAT : Java (*Felder*); Sumatra.

EXPANSE : ♂, 2·8 to 3·1 inches.

DESCRIPTION : MALE. UPPERSIDE, *forewing* black, but the basal three-fourths overlaid with long hair-like rich ferruginous scales; an orange-coloured spot on the costa beyond the end of the discoidal cell; a round whitish spot at the apex; five marginal rich ferruginous spots one in each interspace from the lower discoidal nervule to the inner margin, the series of spots gradually, but regularly, approaching the outer margin of the wing—the posterior spot on the margin at the anal angle, the anterior spot well removed from it. *Hindwing* with the base fuscous, but so heavily overlaid with long ferruginous setæ as to almost entirely hide the ground-colour, the outer half of the wing rich ferruginous free of long hairs; a submarginal series of five almost blind round black ocelli, the uppermost ocellus much the largest, the middle one quite small in one specimen, but in two other specimens the three posterior spots are equal-sized; the second spot anteriorly second also in point of size; two submarginal closely approximated dark brown lines. UNDERSIDE, *both wings* richly variegated, the ground-colour purplish-brown. *Forewing* with a broad rich deep brown bar across the discoidal cell at about its middle; a still broader bar beyond; a chevron-shaped mark across the submedian interspace at the point where the first median nervule originates, with its angle outwards; a broad discal irregular band immediately beyond the outer end of the cell, commencing on the costa, ending in the middle of the submedian interspace; a narrower, decreasing, pale purplish-white band placed outwardly against the first band; followed by a large rich deep brown triangular area, its base on the costa, its apex in the first median interspace; two whitish apical spots; posterior to which in the discoidal interspaces are two perfect ocelli, the upper twice as large as the lower; two submarginal rich deep brown lines ending posteriorly about the first median nervule, the inner line lunulated, the outer straight; the submedian interspace

outwardly beyond the chevron mark rich chrome-yellow, this colour outwardly extending into the interspace on either side of the submedian one. *Hindwing* with a broad discal rich deep brown band crossing the middle of the cell, widest on the costa, dislocated and slightly shifted outwardly posterior to the cell, fading away to nothing in the submedian interspace; a broad outer discal irregular similar band, anteriorly it curves round the large anterior ocellus and throws out inwardly a spur placed on the lower disco-cellular nervule, ending posteriorly on the submedian nervule; a submarginal series of six perfect ocelli, the anterior one much the largest, the fifth the next largest, the second, fourth and sixth the next in size and equal-sized, the third the smallest, the sixth bipupilled; two submarginal lines—the inner one broad and deep red, the outer narrow and deep brown; *cilia* pale yellow inwardly defined by a fine dark thread. *Antennæ* with the shaft red, the club black with a red tip.

Described from three male examples obtained in the Battak Mountains. The species was originally described from a female example. It is the most beautiful species of the genus known to me, and is probably very rare, as out of some thousands of Javan butterflies I have received, I have not found *L. darena* amongst them.

Subfamily NYMPHALINÆ.

4. TERINOS TEOS, n. sp., Pl. K, Figs. 5, ♂; 6, ♀.

HABITAT: Sumatra.

EXPANSE: ♂, 2.85; ♀, 2.90 inches.

DESCRIPTION: MALE. UPPERSIDE, *both wings* rich shining purple, all the veins more or less narrowly defined with reddish-ochreous. *Forewing* with the usual velvety-black shining sexual patch occupying half the surface, commencing on the inner margin at less than half the length of the margin from the base and reaching the anal angle, reaching to the lower discoidal nervule, and extending on the disc along the first median nervule and submedian nervule, but never quite touching the discoidal cell; a similar black streak extends broadly along both sides of the upper discoidal nervule. *Hindwing* with a large velvety-black shining sexual patch at the apex, ending abruptly at the second subcostal nervule; the outer margin rather, and the abdominal margin very, broadly fuscous. *Cilia* of the hindwing reddish-ochreous, of the forewing posteriorly reddish-ochreous, anteriorly black. UNDERSIDE, *both wings* castaneous, crossed by numerous more or less zigzag shining pale purple lines. *Forewing* with a round white subapical spot. *Hindwing* with a discal series of five oval deep castaneous spots, one in each interspace from the submedian to the upper subcostal, except the discoidal which lacks a spot, the middle spot the smallest. FEMALE. UPPERSIDE, *both wings* fuscous. *Forewing* with the basal area extending just beyond the disco-cellular nervules rich shining purple; a broad discal somewhat obscure dark fuscous fascia outwardly touched with the purple

colour; a submarginal narrow waved similar fascia, the outer margin, especially at the apex, broadly dark fuscous. *Hindwing* with the base and a large discal area rich shining purple, the latter area inwardly bounded by the false termination to the discoidal cell, anteriorly by the second subcostal nervule, posteriorly by the first median nervule, outwardly not reaching the margin; a waved, rather broad, submarginal line. *UNDERSIDE*, *both wings* as in the male, but the ground-colour and the shining pale purple lines all paler.

Nearest to *T. robertsia*, Butler, from the Malay Peninsula, from which it differs conspicuously in both sexes in lacking the two white (sometimes tinted with ochreous) spots on the upperside of the hindwing near the outer margin in the upper median and discoidal interspaces; and on the underside of the hindwing in having the marginal narrow slightly waved line, and the submarginal highly waved broad line, pale purple throughout, in *T. robertsia* they are white.

Mr. A. R. Wallace describes a "*Local form A*" of *T. robertsia* from Sumatra* thus:—"Browner [than *T. robertsia*], with the blue portions more violet, and the white posterior spots replaced by rufous." In *T. teos* these spots are barely traceable. "The [lower] disco-cellular [nervule of the forewing] meets the median nervure at the origin of the second median nervule." In the four specimens of *T. teos* and eight of *T. robertsia* before me as I write, I find that the lower disco-cellular nervule of the forewing, though varying a hundred per cent. in position, always meets the median nervure well before the origin of the second median nervule, which agrees with Mr. Wallace's remarks on the neururation of the latter species, and would appear to separate his *Local form A* and my *T. teos* from it. It is interesting to note that *T. altila*, Fabricius, and *T. teos*, de Nicéville, differ precisely in the same way, *i.e.*, in the absence of the white spots on the upperside of the hindwing, these spots being present in their Malay Peninsula correlatives, *T. teuthras*, Hewitson, and *T. robertsia*, Butler.

Described from three male specimens in my own and one female in the collection of Dr. L. Martin.

5. *ATHYMA ASSA*, n. sp., Pl. K, Fig. 8, ♂.

HABITAT: Battak Mountains, Sumatra.

EXPANSE: ♂, 2·3 inches.

DESCRIPTION: *MALE*. *UPPERSIDE*, *both wings* black. *Forewing* with the following milky-white markings:—a very narrow streak in the discoidal cell extending beyond it but for a very short distance; three narrow subapical spots, the middle one the largest; a large oval spot in the first median interspace, a quadrate one below it filling the interspace and indented at both sides, a small elongated spot on the sutural area, these three spots outwardly marked with pale blue; a discontinuous submarginal whitish line, broken in the upper

* Trans. Ent. Soc. Lond., 1869, p. 342. Heer P. C. T. Snellen also records *T. robertsii* (sic) from Sumatra in Tijds. voor Ent., vol. xxxiii, p. 218 (1889-90).

median interspace, being there curved inwards towards the base of the wing; a very indistinct pale marginal line. *Hindwing* with a broad, outwardly-blue-edged, discal white band, commencing broadly at the costal nervure, increasing in width to the submedian nervure, where it terminates; a prominent but narrow submarginal band, divided into spots by the veins, gradually increasing in width from the costa to the submedian nervure, where it ends; a pale indistinct marginal line. *UNDERSIDE*, both wings reddish-brown, all the white markings more prominent than above, and tinted with shining bluish. *Forewing* has the three subapical spots joined to the submarginal line; an oval black spot in the submedian interspace, placed internally at the base of the first median nervule; a diffused blackish spot in the same interspace between the large discal white spot and the submarginal line. *Hindwing* with an additional curved basal white streak, placed anterior to the costal nervure; the abdominal margin broadly metallic greenish. *Cilia* of both wings black, bearing a white dot in the middle of each interspace. *Abdomen* at the base above with a broad bluish-white band.

Nearest to *A. nivifera*, Butler, from Nepal and Assam (sic, *Butler*), the Malay Peninsula, Sumatra, Nias, and Borneo. Differs from Straits and Sumatran specimens in having the discoidal streak of the forewing narrower and much shorter, the three subapical spots half as wide, the two posterior of the discal spots narrower, thereby all combining to make the black ground-colour of the wing of considerably greater extent. In the hindwing the discal band is broader, and instead of ending anteriorly in a small round spot, it is continued uninterruptedly and widely to the costal nervure. The first subcostal nervule of the hindwing on the upperside is black not prominently snow-white as it is in *A. nivifera*. On the underside of both wings the ground-colour is reddish-brown or castaneous, not hair-brown; in the forewing the discoidal streak is longer and quite undivided; there are no black streaks placed on the ground-colour between the veins, on the hindwing the discal band is wider, especially so at each end, and the series of rounded blackish spots between the discal and submarginal bands in *A. assa* is larger, more diffused, and deep castaneous instead of blackish. I have not seen *A. nefte*, Cramer, from Java, but that species is probably distinct from *A. assa* to judge from Mr. Moore's figures of it in Proc. Zool. Soc. Lond., 1858, p. 13, n. 7, pl. 1, fig. 5, *male* and *female*. *A. reta*, Moore, from Sumatra, is another closely allied species, but differs apparently from *A. assa* in the forewing in having the terminal spot well separated from the rest of the discoidal streak, in the presence of an additional spot in the second median interspace, and in the hindwing in having the discal band widest on the costa, narrowest on the abdominal margin, while in *A. assa* the reverse is the case.

Described from two male specimens in my collection.

Genus EUTHALIA, Hübner ; subgenus NORA, nov.

MALE. Differs from the subgenus *Felderia*, Semper, in the FOREWING being shorter, the apex acute, not truncate, the outer margin slightly, instead of strongly, excavated below the apex, the inner margin straight, not outwardly bowed, all the subcostal nervules free, instead of the first anastomosing with the costal nervure. HINDWING very triangular, the anal angle forming the apex of the triangle, instead of almost quadrate ; a patch of shining glandular black scales at the base of the costa occupying the base of the subcostal interspace, anteriorly bounded by the costal nervure, posteriorly by the second subcostal nervule, the "male mark" being almost similar to that in *Felderia*, but is not perhaps quite so dense or conspicuous. FEMALE. FOREWING shaped much as in the male, the apex not quite so acute ; the first subcostal nervule anastomosing with the costal nervure as in both sexes of *Felderia*. HINDWING broad, quadrate, shaped as in *Felderia*. Type, the "*Adolias*" *kesava*, Moore.



EUTHALIA (*Nora*) KESAVA, Moore.

This subgenus will comprise the following species :—

<i>Euthalia</i> (<i>Nora</i>)	<i>kesava</i> , Moore.	} Probably one species.
„	„ <i>discipilota</i> , Moore.	
„	„ <i>rangoonensis</i> , Swinhoe.	
„	„ <i>ramada</i> , Moore.	
„	„ <i>decorata</i> , Butler.	
„	„ <i>bipunctata</i> , Vollenhoven.	
„	„ <i>salia</i> , Moore.	
„	„ <i>erana</i> , de Nicéville.	
„	„ (?) <i>laverna</i> , Butler.	
„	„ <i>lavernalis</i> , de Nicéville.	

All these species I possess, except *E. laaverna* and *E. laavernalis*. There are probably other described species which should also be included in the list which I have not seen. The subgenus is a very compact and natural one, all the species being closely allied.

I give below a key to the subgenera which I would admit in the genus *Euthalia*. To my mind there is something peculiar and distinctive in all *Euthalias*. As far as is known, their transformations are similar, and in the field they have the same habits. They have a bold flight, settle with wings both closed and open, the former more especially when alarmed. They are particularly partial to the juices of over-ripe fruit. I deprecate as much the splitting up this genus into numerous genera as I do those of *Danaïs*, *Euploea*, *Lethe*, *Mycalopsis*, *Neptis*, *Charaxes*, *Papilio*, and others. At the same time, for classificatory purposes, it is most convenient to institute subgenera for the various groups into which the above-named and other large genera can be divided. If these subgenera be raised to the rank of genera, at once all connection between them appears to be lost, a *Dophla* becomes as good a genus as an *Euthalia*, this being very far from the case, while *Dophla*, *Euthalia* and, say, *Charaxes* are all genera of equal rank, which misrepresents the facts, as *Charaxes* is entirely distinct from the other two, which latter are closely allied.

Key to the subgenera included in the genus Euthalia.

A. Forewing with the discoidal cell closed.

a. Forewing, apex much produced.

1. DOPHLA, Moore, type *E. evelina*, Stoll.

b. Forewing, apex not produced, the outer margin slightly concave.

2. LEXIAS, Boisduval, type *E. areopus*, Linnæus.

B. Forewing with the discoidal cell open.

a. Male, hindwing, upperside with a glandular patch of black scales below the costa.

- a 1. Male, forewing, apex produced, truncate, the outer margin deeply excavated, first subcostal nervule anastomosed with the costal nervure ; hindwing quadrate.
- 3. FELDERIA, Semper, type *E. phlegethon*, Semper.
- b 1. Male, forewing, apex not produced, acute, the outer margin not deeply excavated, first subcostal nervule free from the costal nervure ; hindwing triangular.
- 4. NORA, de Nicéville, type *E. kesava*, Moore.
- b. Male, hindwing, upperside with no "male-mark."
- a 1. Palpi with third joint not slenderly produced, bristle-like.
- a 2. Hindwing triangular, anal angle produced.
- 5. EUTHALIA, Hübner, type *E. lubentina*, Cramer.
- Aconthea*, Horsfield, type *E. primaria*, Horsfield,=*E. aconthea*, Cramer.
- Adolias*, Boisduval, type *E. aconthea*, Cramer.
- Itanus*, Doubleday, type *E. phemius*, Doubleday and Hewitson.
- b 2. Hindwing quadrate, anal angle rounded, not produced.
- 6. SYMPHÆDRA, Hübner, type *E. thyelia*, Fabricius,=*E. nais*, Forster.
- b 1. Palpi with third joint slenderly produced, bristle-like.
- 7. TANÆCIA, Butler, type *E. pulasara*, Moore.

6. EUTHALIA (*Nora*) ERANA, n. sp., Pl. L, Figs. 1, ♂ ; 2, ♀.

HABITAT : Sumatra.

EXPANSE : ♂, 2·3 ; ♀, 2·7 inches.

DESCRIPTION : MALE. UPPERSIDE, *both wings* dark brown. *Forewing* with the usual black linear markings in and below the discoidal cell ; a whitish brown-sullied discal lunular band, consisting of six portions, the two uppermost the widest, the third subequal to the fifth, the fourth rather smaller than the first and second, the sixth duplicated ; this band bears outwardly a fine highly lanceolate white line, itself outwardly narrowly defined with black ; the outer margin towards the anal angle paler than the rest of the wing. *Hindwing* with the usual black markings in the cell ; a broad discal white band from the costa where it is widest to the submedian nervure, bearing a prominent highly lanceolate narrow black line, which anteriorly divides the band almost equally, but posteriorly approaches the outer border of the band ; the outer margin broadly from the anal angle, but decreasingly towards the apex of the wing, blue, the posterior interspace green ; the three apical interspaces marginally of the colour of the ground ; the abdominal margin greenish-white. UNDERSIDE, *both wings* rich ochreous, with the usual basal black markings. *Forewing* with the discal band of the upperside but bluish-white, prominently outwardly defined with black. *Hindwing* with an even discal bluish-white

band, outwardly defined with the lunulated blackish line of the upperside ; the abdominal margin tinted with bronzy-greenish. FEMALE. UPPERSIDE, *both wings* much paler than in the male, dull ochreous-brown ; with the discal whitish band much as in the male, but with no outer blue band on the *hind-wing*. UNDERSIDE, *both wings* almost precisely like the male, except that the outer margins are tinted with opalescent-whitish.

Nearest to *E. salia*, Moore, from Java,* from which *E. erana* differs in the male on the upperside of the forewing in the discal band not being "margined outwardly with dull blue," and on the hindwing in having the lanceolate black line much more deeply zigzagged, the discal white band twice as broad. The female differs on the upperside of the hindwing in having the discal white band much less prominent, sullied with brownish instead of pure white, and considerably narrower.

The species figured as *E. laverna* by Butler in his "Lepidoptera Exotica," p. 174, pl. lx, fig. 5, *male* (1874), from Borneo, appears to be another closely allied species, differing at a glance from *E. erana*, however, in the discal band of the hindwing on the upperside in the male being blue instead of white, and with no blue region beyond. It is very close to *E. decorata*, Butler, but, as figured, has the discal band of the forewing on the upperside anteriorly composed of a double series of pure white highly angled lunales, while in *E. decorata* the band throughout is sullied with fuscous. As Mr. Butler has elected to consider the female of his *E. laverna* from Penang and Malacca as the type of his species (both sexes of which are described and figured by Mr. Distant in his "Rhopalocera Malayana"), I propose to name the male figured by Mr. Butler, *Euthalia lavernalis*, as it is at present unnamed.

E. erana is described from a single pair of specimens in my collection.

7. EUTHALIA (*Tanaëcia* ?) ELONE, n. sp., Pl. L, Fig. 3, ♂.

HABITAT : Battak Mountains, Sumatra.

EXPANSE : ♂, 2·7 inches.

DESCRIPTION : MALE. UPPERSIDE, *both wings* dark hair-brown or fuscous. *Forewing* with the usual linear black markings in and beneath the discoidal cell ; a discal very obscure pale band, to be seen only in some lights, broad on the costa, rapidly diminishing in width to the third median nervule ; the anal angle bearing three increasing metallic green spots divided from the margin by a fine line of the ground-colour and from each other by the veins.

* Heer P. C. T. Snellen in Tijds. voor Ent., vol. xxxiii, p. 217 (1890), records "*Adolias*" *salia* from Sumatra, but the species here described was apparently not recognized by him as a species distinct from *E. salia*.

Hindwing with the usual linear black markings in the cell; a discal series of six small obscure black spots, followed by a broad submarginal pure white band crossed by the black veins, decreasing in width at either end, bounded anteriorly and posteriorly by a narrow metallic green line, both lines increasing in width towards the abdominal margin where they meet in a point, the anterior line through four interspaces divided from the broad submarginal white band by narrow lunules of the ground-colour; abdominal margin broadly pale fuscous. *Cilia* of both wings very narrow, white. **UNDERSIDE**, *forewing* reddish-brown; the discoidal black markings very prominent; a discal irregular lunulated black band; a slightly curved submarginal series of six increasing round black spots; the apex and outer margin decreasingly pale violet. *Hindwing* pale violet, the outer margin fuscous; the white submarginal band as above, inwardly bounded by a series of round black spots between the veins, the innermost spots linear, recurved to the abdominal margin; followed by a series of four linear black spots from the third median nervule to the submedian nervure; then an angulate series of eight spots extending right across the disc of the wing, the discoidal cell and the base marked with numerous black spots.

Nearest to *Tanaëcia nicevillei*, Distant, from Perak, the type and two males of which I am able to compare with *T. elone*, differing conspicuously on the upperside of the forewing in having a very small metallic green area at the anal angle instead of a large blue area, and on the hindwing in having a large submarginal pure white band defined on both sides by metallic green, and not reaching the outer margin, not bearing a series of black spots at its middle, instead of a much broader blue band extending right up to the outer margin. On the underside of the hindwing the black macular markings are very well marked and prominent, much more so than in *T. nicevillei*, and the white band is again a conspicuous differential character. *E. zichri*, Butler, from Sarawak (Borneo) and Malacca, appears to be another allied but quite distinct species.

Can the genus *Tanaëcia* be retained as a full genus? As at present understood it contains a very heterogeneous collection of euthaliad butterflies; but, as Mr. Doherty has pointed out,* the one character by which I once thought it could be separated from *Euthalia*, viz., by the anastomosis of the first subcostal nervule with the costal nervure of the forewing, has been shown by him to be utterly inconstant, even in the same species, and there appears to be, therefore, no other generic character left, unless the slender bristle-like terminal joint to the palpi be considered of sufficient generic significance, but, as far as my collection goes, only *T. pulasara*, Moore, which is the type of *Tanaëcia*, *T. aruna*, Feider, and *T. martigena*, Weymer, possess this feature, all the other so-called

* Jour. A. S. B., vol. lviii, pt. 2, p. 121 (1889).

Tanaëcias, including *T. nicevillei* and *T. elone*, have the palpi normal and as in typical *Euthalia*. At best *Tanaëcia* can, I think, only be retained as a subgenus.

E. elone is described from a single specimen in Dr. L. Martin's collection.

8. CYRESTIS (*Chersonesia*) CYANEE, n. sp., Pl. L, Figs. 6, ♂; 7, ♀.

HABITAT : Battak Mountains, Sumatra.

EXPANSE : ♂, ♀, 1·65 inches.

DESCRIPTION : MALE. UPPERSIDE, *both wings* rich deep orange. *Forewing* with a short black basal line ; two subbasal lines filled in with fuscous ; the disco-cellular nervules enclosed by two exceedingly fine lines, the space between them of the ground-colour, these two lines themselves enclosed in two other lines filled in with fuscous ; a broad discal single line ; a pair of submarginal lines enclosing two short lines, the anterior of these placed between the discoidal nervules, the posterior between the second median nervule and the submedian nervure ; a marginal line—all these black lines almost straight, and reaching from the costa to the inner margin. *Hindwing* with no basal line ; the two following pairs of lines as in the forewing, but the outer pair, instead of enclosing two fine disco-cellular lines, has a single line on its inner edge ; the discal and submarginal lines as in the forewing, but the latter pair enclosing a continuous broad black line, ending at the anal angle in two detached spots ; a marginal diffused line, and a very fine anteciliary line. UNDERSIDE, *both wings* as above, all the black markings very prominent, the two basal pairs of lines not filled in with fuscous, the ground-colour a trifle paler perhaps than on the upperside. FEMALE, much as in the male, but the wings broader, the ground-colour very much paler, all the black markings less intense.

Nearest to *C. risa*, Doubleday and Hewitson, which occurs from Kumaon to Assam, in Burma, and again in Java, but not in the Malay Peninsula ; differs therefrom in the male in its darker ground-colour, the two basal pairs of lines on the upperside being filled in with fuscous, the discal single line being much broader, and especially in the absence of all violet markings in the space enclosed by the submarginal pair of lines, this being a very conspicuous feature in *C. risa*. In the hindwing of *C. cyanee* these purple markings are replaced by a broad black line ; also in *C. risa* there is always a more or less conspicuous series of pale yellow triangular markings in both wings, but more especially in the hindwing, placed internally to the inner of the two submarginal lines, which is quite absent in *C. cyanee*.

Described from a single pair in my collection.

Family LEMONIIDÆ.

Subfamily NEMEOBIINÆ.

9. ABISARA AITA, n. sp., Pl. L, Fig. 10, ♂.

HABITAT : Battak Mountains, Sumatra.

EXPANSE : ♂, 2·1 inches.

DESCRIPTION : MALE. UPPERSIDE, *both wings* dull hair-brown. *Forewing* with two pale, almost straight, discal bands, extending from the costa to the

inner angle, rather far apart on the costa, close together posteriorly, the inner band twice as wide as the outer; a short obscure fine marginal white line at the inner angle. *Hindwing* outwardly becoming pale brown; the outer third of the wing pure white, but apically and anally of the brown ground-colour; a small white spot at the apex, then two large jet-black spots divided by, and bounded anteriorly and posteriorly by, the rich ochreous terminations of the second subcostal, discoidal, and third median nervules, the anterior black spot surrounded on three sides by a white line, the posterior spot marked anteriorly and posteriorly by a white line; a rather large triangular brown spot at the base of the tail; a very small brown spot in the first median interspace; a duplicated jet-black spot divided only by the fold in the submedian interspace; a narrow black line at the anal angle along the margin, with similar, but still narrower, decreasing black lines in the three anterior interspaces; a very narrow marginal black line; *tail* white. *Cilia* of the forewing brown, of the hindwing pure white. *UNDERSIDE*, *both wings* with the ground-colour much paler than above, hoary at the base. *Forewing* with the discal lines more prominent than on the upperside, pure white; the fine white line at the inner angle more prominent. *Hindwing* marked much as above, but the outer white area is seen to bear inwardly an almost continuous brown line, it being broken only in the median interspaces, where it is represented by two brown spots, and is recurved to the abdominal margin above the anal angle.

In the ground-colour of the upperside, *A. aita* resembles *A. neophron*, Hewitson, but the two whitish bands of the forewing ally it more nearly to *A. savitri*, Felder, which also occurs in Sumatra. *A. aita* is abundantly distinct from all its allies by the presence of the large outer white area on both sides of the hindwing.

Described from two examples in my collection.

Family LYCÆNIDÆ.

10. YASODA PITANE, n. sp., Pl. I, Fig. 5, ♂.

HABITAT : Battak Mountains, Sumatra.

EXPANSE : ♂, 1.35 inches.

DESCRIPTION : MALE. *UPPERSIDE*, *both wings* rich orange-yellow. *Forewing* with a very broad deep black outer border with its inner edge evenly curved, the border broadest at the apex, nearly three millimeters broad at the inner angle; a minute black dot in the second median interspace; the base of the wing powdered with dusky. *Hindwing* with more than the outer half of the wing deep black, this black area commencing very narrowly on the costa, then broadly on the outer margin as far as the discoidal nervule, when it is continued across the wing to the abdominal margin parallel with the costa; the

“male-mark” defined by a thin orange line; the base of the wing powdered with dusky; *tail* black. **UNDERSIDE**, *both wings* brownish-orange, with the usual annular fine macular markings. *Hindwing* powdered with violet and black in the anal area.

Nearest to *Y. pita*, Horsfield, which I have from Sumatra and Java, differing therefrom in the broader outer black margin to the forewing, and especially in having more than half the area of the hindwing black, in the male of *Y. pita* the outer margin alone is narrowly black, with a broad black streak along the “male-mark.”

Described from a single male in my collection.

Family PAPILIONIDÆ.

Subfamily PRERINÆ.

11. DELIAS DANALA, n. sp., Pl. L, Fig. 9, ♂.

HABITAT : Battak Mountains, Sumatra.

EXPANSE : ♂, 2·2 inches.

DESCRIPTION : **MALE**. **UPPERSIDE**, *both wings* dead chalky white. *Forewing* with the costa as far as the subcostal nervure dusky; the apex very broadly (extending, in fact, almost to the outer end of the discoidal cell), but rapidly decreasing to the anal angle, where it ends in a point, dusky, bearing three indistinct whitish spots between the veins anterior to the third median nervule. *Hindwing* with the outer margin posteriorly narrowly black, the black colour extending inwardly slightly between the veins in a dusky powdering. **UNDERSIDE**, *forewing* as above, but the veins outwardly, rather broadly, defined with black; there are also five subapical spots between the veins, of which the uppermost on the costa is very small, the next the largest and pale yellow, the three following decreasingly smaller and dusky white. *Hindwing* clear yellow, all the veins narrowly black, the outer margin with a rather broad blackish border, bearing five lunular spots between the veins, of which the three posterior ones are whitish, the two anterior yellow.

Nearest to *D. singhapura*, Wallace*, known to me by the figure and description only, from Singapore and Borneo, differs in its smaller size, that species being 3·12 inches in alar expanse, the forewing rounded, not conspicuously elongated, and with the apex rounded, not highly pointed; on the underside of the forewing the veins—especially the median nervure—are less broadly defined with black, the marginal spots are smaller and only five, instead of six, in number; on the hindwing the outer black border is narrower, less deeply black, the spots smaller, less distinct, entire, not divided by the internervular folds, five instead of six in number, the uppermost one of *D. singhapura* in the upper subcostal interspace being wholly wanting. Other allied species are *D. agoranis*, Grose

* Trans. Ent. Soc. Lond., third series, vol. iv, p. 353, n. 29, pl. vii, fig. 2, *male* (1867).

Smith, Rhop. Ex., vol. i., *Delias* I, figs. 7, 8, *male* (1889), from the Siamese frontier of Burma, and *D. kuehni*, Honrath, Berl. Ent. Zeitsch., vol. xxx, p. 295, pl. vi, fig. 2, *male* (1886), from Bangkai Island, near Celebes.

Described from a single example in Dr. Martin's collection.

12. *DELIAS DERCETO*, n. sp., Pl. I, Fig. 4, ♂.

HABITAT: Battak Mountains, Sumatra.

EXPANSE: ♂, 3·0; ♀, 2·7 to 3·4 inches.

DESCRIPTION: MALE. UPSERSIDE, *both wings* deep black. *Forewing* with two white spots at the end of the discoidal cell defining the disco-cellular nervules; a submarginal series of seven oval whitish spots placed between the veins. *Hindwing* bearing a large, anteriorly white powdered with dusky, posteriorly pale primrose-yellow, area divided by the veins, occupying the outer end of the cell, this area is bounded outwardly by a broad black border, which at the anal angle dwindles away to nothing. UNDERSIDE, *forewing* with the ground-colour black, but with a large area from the inner margin extending on to the disc powdered with whitish; the discoidal and submarginal spots as above, but pure white, larger, and much more prominent. *Hindwing* with the immediate base of the wing black; then a broad curved rich crimson area, commencing on the costal nervure and ending on the abdominal margin, crossed by the black veins, slightly sprinkled with black scales; followed by a rather narrow highly irregular black band; the outer half of the wing pale chrome-yellow, gradually darkening to a deeper chrome in the two posterior interspaces, the veins crossing this area black, from the first median to the second subcostal nervule gradually outwardly dilated and forming between those veins a broad black border. FEMALE differs from the male only in the wings being somewhat broader, *forewing* with the apex more rounded.

Apparently nearest to *D. ninus*, Wallace*, from Mount Ophir, Malacca, Malay Peninsula, but unknown to me except by the original description and figure, from which it differs in its larger size, both wings much broader, the forewing on both sides less heavily marked, two discoidal and seven submarginal spots only, no basal bluish patches whatever, the hindwing with no crimson basal patch on the upperside; on the underside the crimson patch and the black band following it are twice as broad, thus reducing the chrome-yellow area in the discoidal cell by half. It is even more closely allied to *D. crithoë*, Boisduval, from Java, as identified by me, but may at once be known by the crimson band on the hindwing below being twice as broad, and with its outer edge evenly curved, instead of straight, and no discal white patch on the upperside of the forewing.

Described from one male and two females in my collection.

* Trans. Ent. Soc. Lond., third series, vol. iv, p. 347, n. 9, pl. vii, fig. 1, *male* (1867).

13. DELIAS DATAMES, n. sp., Pl. L, Fig. 8, ♂.

HABITAT : Battak Mountains, Sumatra.

EXPANSE : ♂, 2·3 inches.

DESCRIPTION : MALE. UPPERSIDE, *forewing* dead chalky-white ; the costa as far as the subcostal nervure, the apex very broadly reaching almost to the end of the discoidal cell, and the outer margin decreasingly, black, bearing a series of five prominent small round white spots, of which the fourth from the costa is the smallest, the fifth the largest ; the disco-cellular nervules defined with black. *Hindwing* white, but not of as pure a shade as in the forewing, the black colour of the underside appearing to show through by transparency, especially at the base of the wing, and broadly along the outer margin, where it may almost be said that the wing has a broad outer diffused blackish border, more intense anteriorly. UNDERSIDE, *forewing* with the inner margin broadly white, gradually merging in the submedian interspace into the yellow colour of the disc and base ; the black apical and outer marginal areas much as on the upperside, but extending narrowly into the outer end of the cell ; bearing six submarginal spots, of which the two anterior ones are clear yellow, the rest white ; there is also a second white spot in the lower discoidal interspace midway between the submarginal spot and the lower disco-cellular nervule ; the base and disc of the wing reaching anteriorly to the costal nervure clear yellow. *Hindwing* dull bronzy-black throughout except a small streak of clear yellow anterior to the costal nervure ; a submarginal series of six small clear yellow spots placed between the veins, the one in the submedian interspace geminated.

This species is perhaps one of the most remarkable in the genus. On the upperside it has somewhat the appearance of *Heuphina nama*, Moore, which I have also from the mountains of Sumatra, and for which it would certainly pass without notice when flying. *D. datames* is very closely allied to *D. momea*, Boisduval, from Java, the male differing from the same sex of that species in the costa of the forewing being black up to the subcostal nervure instead of white, the black apical area of greater extent and reaching the inner angle, which it does not do in *D. momea* ; in the hindwing the black powdery outer border is unmarked, in *D. momea* it bears three white spots placed one in each interspace between the second median and second subcostal nervules ; on the underside of the forewing the yellow coloration is of a deeper shade, and is more extensive, in *D. momea* the white coloration of the inner margin extends outwardly as far as the second median interspace, thus greatly reducing the yellow area ; the two anterior spots of the submarginal series are yellow, in *D. momea* they are white ; in the latter species there are three discal white spots, in *D. datames* only one ; and in the hindwing there is no discal series of

streaks between the veins as there is in *D. momea*. I possess a single pair only of *D. momea*.

Described from a single male example in Dr. Martin's collection.

Subfamily PAPILIONINÆ.

14. PAPILIO (*Dalchini*) SARPEDON, Linnaeus, Pl. L, Fig. 11, ♂.

P. sarpedon, Linnaeus, Syst. Nat. Ins., ed. x, p. 461, n. 14 (1758).

The very remarkable melanoid aberration or "sport" of *P. sarpedon* figured was obtained on the Battak Mountains of Sumatra by Dr. Martin's Battak collectors. The upperside of both wings is entirely black, save in the forewing the anterior spot of the broad macular discal blue-green band of normal *P. sarpedon*, and in the hindwing the four middle submarginal blue-green lunules of the series of six of the typical form, are alone present. The markings of the underside similarly differ, the broad discal blue-green band of both wings of the normal form being reduced to the anterior spot of the forewing only, the submarginal lunules of the hindwing as on the upperside, but all the crimson and deep black markings of the normal *P. sarpedon* are present.

This unique butterfly is in Dr. Martin's collection.

15. PAPILIO (*Pangerana*) SYCORAX, Grose Smith, Pl. M, Fig. 1, ♂.

Papilio sycorax, Grose Smith, Ent. Month. Mag., vol. xxi, p. 247 (1885); id., Distant, Rhop., Malay., p. 468, n. 29, pl. xlii, fig. 10, *female* (1886); *P. egertoni*, Distant, Ann. and Mag. Nat. Hist., fifth series, vol. xvii, p. 251 (1886).

HABITAT: Perak, Malay Peninsula (*Distant* and *collection de Nicéville*); Sumatra (*Grose Smith* and *collections Martin* and *de Nicéville*).

EXPANSE: ♂, 6·0 inches. (My largest ♀ expands 7·0 inches).

DESCRIPTION: MALE. UPSIDE, *both wings* very deep indigo-blue, slightly glossed with a greenish tint in some lights. *Forewing* obscurely streaked with greyish outwardly between the veins. *Hindwing* with the abdominal margin broadly twice folded over above; the outer margin broadly dull olive-green, this area bearing anteriorly four rounded black spots, the anterior spot coalescing with the indigo-blue ground-colour, the posterior spot hidden beneath the fold; a marginal series of five black spots. UNDERSIDE, *both wings* deep black. *Forewing* with the discoidal cell, as well as all the other interspaces, streaked with pale greenish-white. *Hindwing* with the outer half pale greenish-white, this area sharply defined, just reaching the cell at the bifurcation of the third median and discoidal nervules, bearing inwardly five oval black spots, the uppermost with its anterior end coalescing with the ground-colour, and outwardly six round similar spots. *Face* posteriorly with long black hairs, anteriorly these hairs are pale buff-yellow, as also is the *thorax* anteriorly; posteriorly the thorax, and the anterior third of the *abdomen* above is black, the posterior two-thirds of the abdomen above is dull olive-green,

bearing on each side a series of four round black spots; thorax beneath and *anal valves* black; abdomen beneath bright chrome-yellow, the spiracles black.

It is a very remarkable fact that in certain groups of *Papilio*s the females are far more often met with than the males. This is especially noticeable in the small group which contains *P. sycorax*, *P. priapus*, Boisduval, and *P. hageni*, Rogenhofer, all of which are remarkable in having the face and anterior portion of the thorax above pale buff-yellow. Even the Battaks have noticed this curious feature, and call the butterfly "white-head." *P. sycorax*, as Mr. Grose Smith points out, is obviously close to *P. priapus*, from Java, but having only three female specimens of the latter, I am unable to make a comparison between the respective males of the two species. The females differ chiefly in the outer area of the hindwing on both sides of *P. sycorax* being greenish, in *P. priapus* buff-yellow.

Dr. Martin has only obtained three males of this fine species, two of which he has generously presented to me, together with four females. Mr. J. Wray, Jr., has also sent me a female from the Perak Hills.

16. *PAPILIO* (*Pangerana*) *HAGENI*, Rogenhofer, Pl. M, Fig. 2, ♀.

Papilio hageni, Rogenhofer, Verh. zool.-bot. Gesellsch. Wien, vol. xxxix, p. 1 (1889).

HABITAT : Sumatra (*Rogenhofer* and *collections Martin and de Nicéville*).

EXPANSE : ♀, 6·0 inches.

DESCRIPTION : FEMALE. UPPERSIDE, *forewing* sordid-white, semi-transparent, the base, costa, apex and outer margin fuscous, all the veins broadly marked with fuscous, the discoidal cell bearing four longitudinal black streaks, the interspaces beyond the cell also bearing a black streak each. *Hindwing* shining black, the basal half tinted with dark olive-green; the disc bears a large white area crossed by the black veins and by four large oval black spots, the anterior of these almost merged into the black ground-colour, the white area anterior to these spots pure white, posterior to them sprinkled with black scales. UNDERSIDE, *forewing* a little paler than above, similarly marked. *Hindwing* with the ground-colour throughout deep black, the white area a little larger, almost pure white throughout, the anterior oval black spot better defined, anteriorly only coalescing with the ground-colour. *Head* in front and *thorax* anteriorly pale buff-yellow, thorax and *abdomen* above black, thorax beneath black, abdomen beneath rich crimson, cross-banded with black, and bearing on each side a series of small black spots.

This very fine species is closely allied to *P. priapus*, Boisduval, and to *P. sycorax*, Grose Smith, and has the face and thorax above anteriorly of the same colour as in those species. Dr. Martin has given me the specimen figured; he has a male (still nondescript) and other females in his collection, but the species appears to be a very rare one.

EXPLANATION OF THE PLATES.

PLATE K.

- Fig. 1. *Danaïs (Caduga) tytioides*, n. sp., ♂, p. 37.
 „ 2. „ „ „ „ ♀, p. 37.
 „ 3. *Euplœa (Narmada) martinii*, n. sp., ♂, p. 38.
 „ 4. „ „ „ „ ♀, p. 38.
 „ 5. *Terinos teos*, n. sp., ♂, p. 41.
 „ 6. „ „ „ „ ♀, p. 41.
 „ 7. *Lethe darena*, Felder, ♂, p. 40.
 „ 8. *Athyma assa*, n. sp., ♂, p. 42.

PLATE L.

- Fig. 1. *Euthalia (Nora) erana*, n. sp., ♂, p. 46.
 „ 2. „ „ „ „ ♀, p. 46.
 „ 3. „ (*Tanaëcia* ?) *elone*, n. sp., ♂, p. 47.
 „ 4. *Delias derceto*, n. sp., ♂, p. 52.
 „ 5. *Yasoda pitane*, n. sp., ♂, p. 50.
 „ 6. *Cyrestis (Chersonesia) cyanee*, n. sp., ♂, p. 49.
 „ 7. „ „ „ „ ♀, p. 49.
 „ 8. *Delias datames*, n. sp., ♂, p. 53.
 „ 9. „ *danala*, n. sp., ♂, p. 51.
 „ 10. *Abisara aita*, n. sp., ♂, p. 49.
 „ 11. *Papilio (Dalchina) sarpedon*, Linnæus, ♂, p. 54.

PLATE M.

- Fig. 1. *Papilio (Pangerana) sycorax*, Grose Smith, ♂, p. 54.
 „ 2. „ „ *hageni*, Rogenhofer, ♀, p. 55.